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ABSTRACT

Educational needs for the future are discussed, particularly in light of how members of the Association for Supervision and Curriculum Development (ASCD) can help students prepare for the future. The document is presented in six chapters. Chapter I presents an overview of ASCD's long range school and educational plans. Chapter II defines key concepts in the field of future studies including alternatives, purposeful action, holism, extended time frames, interdependence, and perceptions of the universe by individuals. World problems examined in light of these concepts include ecological collapse, rising world population, scarcity of fuel and fresh water, and increasing oil prices. Chapter III focuses on educational implications of alternative futures. Topics discussed include identifying high priority issues, redefining knowledge, refocusing curriculum and objectives, and helping create preferable futures. Chapter IV explains how ASCD members can facilitate a futures orientation for students by joining the World Future Society, reading about the future, and participating in futures studies workshops. Chapter V considers how ASCD members can facilitate collaboration in the area of future studies with businesses, industries, schools, and social agencies. The final chapter offers a brief summary of the report. The document concludes with a directory of individuals and organizations involved in the futurist movement. (DB)

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FUTURISTICS AND EDUCATION

AN ASCD TASK FORCE REPORT

Submitted to:

The Executive Council

ASCD

June, 1979

From:

Dennis Van Avery, Chairperson
Salt Lake City, Utah

Geoffrey Fletcher
Cincinnati, Ohio

Don Glines
Sacramento, California

Virginia Roth
Omaha, Nebraska

Richard Stock
Ann Arbor, Michigan

Kathy Schaub, Liaison
Washington, D.C.

SP 012 038

Association for Supervision and Curriculum Development
225 North Washington Street, Alexandria, VA 22314

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PART I: OVERVIEW

Long Range Resolution

ASCD has adopted the following Resolution regarding educational needs for the future:

> The consumers of today's educational processes are tomorrow's future. Therefore, the perspective of things to come is critical to students now in school. ASCD recognizes the importance of exploring the future as an appropriate means of preparing students for the world in which they will function. Such exploration should be of sufficient breadth to include life-styles, values and human relations as concerns of importance equivalent to those natural resources sustaining life.

As a result of this Resolution and in accordance with the ASCD Long Range Plan, a task force was created to formalize a consideration of Futuristics and Education. The work of that committee is herein submitted as a comprehensive report.

Educational Focus

A major purpose of education has always been to prepare students for the future. The difference today is that preparation for the future encompasses more than the past educational goals. Change is occurring with increasing rapidity, as evidenced by the history of transportation: from the horse and buggy to the car to the jet to the Concorde to space shuttles. Education, therefore, must prepare students for a coming world that may be significantly different. To insure a preferable world, educators need to create an awareness of present human capabilities and positive perceptions of what the world could be; the new priority may be to educate learners to implement a realistic scenario that avoids ill-informed optimism on the one hand and a doomsday pessimism on the other. The creation of possible futures could well be self-fulfilling prophecies.

Societal Concerns

There is research about the future. It is derived from a study of the past and present, and projections of human and global evolutions--inventions--discoveries. Foresighting and forecasting are becoming accepted skills. Examples include the space explorations and the efforts of climatologists to project future droughts and distant ice ages. These same approaches can predict famine as well as technological advances, overpopulation as well as space colonization. Through foresighting and forecasting, there are alternative possible futures if people plan and educate for them wisely.

Planning and educating may include new ways of looking at humankind and the biosphere. The solar system is interdependent. What people do in one area affects growth or destruction of life and life supporting elements in all areas.

Roles of ASCD

For ASCD to consider the above concerns in an educational setting, the Task Force has prepared this six-part interrelated report:

I. Overview. A response to the ASCD resolution regarding futuristics and education.

II. Futures Perspective. A rationale and a definition of key concepts.

III. Educational Implications. A consideration of curricular and educational factors.

IV. Membership Implications. A statement of personal and professional actions.

V. Organizational Support. A format for linkage with other professional organizations and agencies.

VI. Summary. A statement of recommendations.

PART II: FUTURES PERSPECTIVES

Forecasting and thinking about the future have been done for thousands of years. During the past few decades, these activities have received increased attention. The reason, in a word, is change. The concept of change is not new. Don Fabun has said:

> Change has always been part of the human condition. What is different now is the pace of change, and the prospect that it will come faster and faster, affecting every part of life, including personal values, morality and religion.

The speed of change, the quantity of change and the quality of change have consequences for humankind. Lester Brown notes:

> If we could devise an index to measure change, we might conclude that the next three decades will bring at least two centuries' worth of change, as measured in historical terms. Should this be the case, the consequences are profound, for whereas change in the past could occur between generations, it must now occur within a generation, putting a great deal more stress on the individual. Accelerating change is also putting an enormous burden on society, its values and institutions.

The effect of stress on individuals has been well documented. Future Shock by Alvin Toffler was the key to alerting the populace to the amount and the effects of change.

> Future shock is a time phenomenon, a product of the greatly accelerated rate of imposition of a new culture on an old one. It is culture shock in one's own society. But its impact is far worse.

If the stress of change on individuals results in possible physical and mental illness and future shock, it could have similar effects on institutions and society as a whole. One of the problems is that the social inventions have not kept up with the technological inventions. In the past, societies have been able to deal with issues relatively successfully

because of the slowness of change and fewer crises. Institutions, which tend to inhibit change, could deal with problems one at a time. Now, however, there are multiple crises caused by the increased rate, quantity and quality of change -- "a crisis of crises all at one time" as John Platt calls it -- occurring on all levels of society. Change, then, forms the context within which futurists view their particular vision of reality.

Futuristics, therefore, goes beyond a set of concepts; it becomes a paradigm. Hazel Henderson defines a paradigm: "those different pairs of spectacles we put on which enable us to see some patterns while distorting or obliterating others." Willis Harman probably describes the concept best when he says: "We shall use the term dominant paradigm to refer to the basic way of perceiving, thinking, valuing, and doing associated with a particular vision of reality." Out of varying views of a futures perspective, a pattern of concepts arises. These concepts concern:

-alternatives and choice

-purposeful action

-holism and stakeholders

-extended time frames

-guiding images.

Although these concepts are all closely related, here they are dealt with separately. It is important to recognize that together they form a futures perspective which, true to the concept of holism, is more than the sum of its parts.

The first, and probably most important, concept is that there is not THE future, not one future, but alternative futures. One way of looking at alternatives is to consider the "Three P Approach:" possible futures, probable futures, and preferable futures. What are the possible futures,

what are the most probable, based upon past data, impacting forces and projected events? Within the possible and probable futures, which are most preferable? What are some routes that can lead from the present to preferable futures?

Closely allied with the concept of alternatives and choice is that of purposeful action. One of the most persuasive advocates of using futures in order to be proactive is Bertrand de Jouvenel who states:

> What is important is to find points of fulcrum on which we can exert pressure, thereby deflecting the course of events in one direction rather than another...We want to forecast in order to act.

Though action can occur in many ways, the important thing is to act, to intervene in sufficient time so that personal actions might be of consequence. If one does not act in time, one loses choice.

A futures perspective causes people to look at consequences in a holistic way. Richard Falk, in An Endangered Planet, notes that one of the things that brought holism to mind for most people was the threat of nuclear weapons, because one explosion could affect the entire Earth, not just the target area. Another event was the photograph of the Earth from outer space. It made humankind realize that it is part of one, finite Spaceship Earth. But the most important influential force in raising the consciousness of the industrial world in regard to holism has been the ecology movement, what Harman calls an ecological ethic.

A concept that is seldom mentioned, but often implied in connection with holism, is that of stakeholders. It means simply considering all human beings who might have a stake or a share in either an action or an event or the consequences of an action or event.

The concept that is shared the least with fields other than history is an extended time frame. The following statement from C. West Churchman sums up the importance of a long time frame:

> There was a time in my young life when I was struggling with the question, "What is morality?" I came to the conclusion that morality is what a future generation would ask us to do if they were here to ask us. I believe that the voice of future generations is a morally critical voice today, because a lot of things we are thinking about today have their implications for the future generations.

The most crucial concept is that of guiding images. A guiding image is a self-perception as well as a perception of the universe, the relationships between the self and the universe, and the ability of the person to influence these three elements. Kenneth Boulding describes the essence of the concept of images in his foreward to The Image of the Future by Fred Polak:

> The human condition can almost be summed up in the observation that, whereas all experiences are of the past, all decisions are about the future. It is the great task of human knowledge to bridge this gap and to find those patterns in the past which can be projected into the future as realistic images. The image of the future, therefore, is the key to all choice-oriented behavior. The general character and quality of the images of the future which prevail in a society is therefore the most important clue to its overall dynamics. The individual's image of the future is likewise the most significant determinant of his personal behavior.

These five concepts - alternatives and choice, purposeful action, holism and stakeholders, extended time frames and guiding images - together form a futures paradigm which is larger than the sum of its parts. It is this paradigm, within the context of change, that forms the essence of futuristics.

The universality of futures, the impact of accelerating change on humankind, and the key concepts of a futures perspective help to answer

the question, why consider the study of futures. There are further and even more compelling reasons for advocating a futures perspective, especially with the youth of the United States and the world. In the October, 1977 issue of The Futurist, Peter Schwartz, Peter Teige, and Willis Harman identify forty-one national or international futures problems. (Appendix A). The authors explain the importance of a futures perspective and its accompanying skill of foresight:

> In recent years, we have faced an energy crisis, an urban crisis, a food crisis, and many other crises. In each instance, significant responses came only after a manageable problem had developed into a massive crisis. If the pace of social change continues to quicken we can expect that we shall see crisis mount on crisis until we are overwhelmed. The only alternative is to identify problems before they reach crisis proportions so that appropriate action can be taken.

In addition, the Council on Environmental Quality and thirteen other federal agencies submitted a report to President Carter entitled Global 2000 Report. This report is the first Federal government study to consider population, resources and environment from a long-range, global perspective. The report warns that other ills may create enormous international tensions and endanger world peace by the year 2000. Many emerging crises are cited. Among these are potential ecological collapse; rising world population, most of which will be residing in already overcrowded urban centers in underdeveloped countries; the continued reduction of fertile areas for farming; increased desertification; scarcity of fuel wood and charcoal; shortages of fresh water; a decline in the world fish catch; increased oil prices due to a decrease in oil supply; and other potential crises.

In spite of numerous problems, futurists are, in general, optimistic. There is a strong need, however, for positive images of the future. The Chinese symbol, showing that crisis means not only a potential problem,

but also an opportunity, seems to hold true for the future.

For most of history, humans have focused on solving the problems of the world as it existed. Now society is beginning to focus on problems in the world as humans have reshaped it. It seems that the very success people had in solving the first set of problems has created the second set. These new problems are interrelated and cannot be isolated and then solved. Attempting to do this will make the problems worse. Problems today require new skills. Of high importance among these is a tolerance for multiple interpretations and ambiguity -- the ability to explore and create alternatives.

Children entering school in 1979 will be only in their mid-twenties in the year that the Global 2000 Report projects potential turmoil. Will these children have had the experiences necessary to cope with the anticipated changes of the next 21 years? Will they have the outlook, the perspective, the skills that will be necessary to deal with ambiguity? Will they be allowed to create alternatives that might affect the problems that have been cited? The evidence suggests that the future will be very different from today; problems cited above could be either crises or opportunities. This report focuses on possible directions for educators in general, and for ASCD in particular, directions that could help turn the crises into opportunities and prepare educators and children for the futures to come.

PART III: EDUCATIONAL IMPLICATIONS

The educational implications of the potential alternative futures cited in Part II focus primarily on the person, and on learning systems that could meet the needs, concerns, and desires of individuals and the society in the emerging decades of possible rapid transition.

Each member of the diverse communities within the United States would be personally affected as humankind engages in a new major historical transformation. Institutions, as well as the people they serve, could not escape the impact. Students in the present educational systems, and those who enter in the eighties and nineties, may need an entirely different approach to learning. In an effort to improve quality of life now, and to better prepare for the future, people may need to consider new lifestyles, attitudes and priorities; education appears to be facing major change as it moves toward the Twenty-First Century.

The section on Futures Perspectives cites the potential impacts of anticipated societal transitions upon people and institutions. In Tomorrow's Educator: An Alternative To Today's School Person, Ronald Barnes relates effects of these changes upon schools. He states:

> It is impossible to live very long in a new age under the assumptions of an outmoded one. Institutions attempting to exist on old, outdated assumptions will discover that they are trying to survive in a world which no longer exists, reinforcing ideas and assumptions that are no longer valid. One response to this age of transition is for new-age educators to develop new learning systems.

If this goal is accepted, education should encompass a futures perspective. Futures research and foresighting become

essential tools in planning to serve the individual and common needs of people and communities. Educators should consider new awarenesses and perceptions of themselves, of their roles, and of the potential global crises and opportunities.

The futures literature suggests the need for persons who can assist in the creation of learning environments which address the perspectives discussed in Part II. One set of descriptive characteristics of future educational leaders is delineated by Ronald Barnes in his previously cited publication:

> A New Age educator thinks systematically; accepts and promotes diversity; demonstrates a holistic perspective toward life; strives for self-awareness; promotes interdependence; is comfortable with the unknown; considers human values of highest priority; is experimental; works toward changing schools; has a more open approach to knowledge; and is a true futurist.

How does an educator become "New Age?" What issues are of the highest priority? Where are action steps possible? Access to indepth examinations of these and other related questions is provided through the human and material resource lists in Appendix B of this report. These sources provide the opportunity to carefully and humanistically consider the impacts, advantages, and problems of major educational transitions for individuals and for society.

If new approaches do develop, there will be a need to redefine knowledge; to redefine schooling; to redefine education; to raise new questions. The emphasis would be on learning how to learn, rather than on learning facts; learning would move from a knowing to a searching emphasis. Assisting any change of direction, the coming electronics revolution will provide immediate access to information, with interactive technology leading to new media delivery systems.

Redefinitions would have an impact upon curriculum, school and school district organization, college and university programs and teacher education, inservice and retraining, and the role of the teacher. According to Marshall McLuhan and other noted futurists, curriculum in its present departmentalized, compartmentalized setting is as "outmoded as medieval medicine." They indicate that knowledge is not segmented but interrelated. Futures concerns such as hunger, population, war, pollution, resource depletion, and industrialization can only be considered as interdependent wholes, not as segmented parts. The narrow specializaton of English, Social Studies, Science, Art, et. al., may need to be replaced by broader perspectives, perhaps combining efforts under such categories as Urgent Studies and Human Potential.

Related to curriculum is the redefinition of competencies -- beyond the three R's skills to include a much greater futures perspective. What competencies are essential for individuals and society in a world in transition? Curriculum as process rather than content may be an important variable in planning new learning environments. More attention to shaping, coping, foresighting, parenting, conserving, choosing, relating, listening and judging, and to frugality, preservation, and conflict analysis is called for by most educational futures writers. Current competency requirements and basic skills and knowledges tests may no longer be adequate indicators of competence and success, not only for now, but increasingly as the eighties unfold into the nineties.

To refocus curriculum and competencies, imagineering is desirable in school organization. Futurists indicate that there are more creative ways to organize, but more importantly, changes in conventional patterns may be essential if schools are to produce a generation of

students prepared to cope with and shape their futures. Foresighting is mandated, if the futurists are correct, in the areas of curriculum, competencies, and organizational procedures and structures.

Coinciding with imagining and inventing improved programs for people of all ages, the implications of futures in education call for a rethinking of the evaluation processes. There may be a need to reconsider outcomes. The growing research on the brain, and the further analysis of left/right brain functions may contribute to change in learning modes. Biomedical/chemical studies increasingly relate learning problems to chemical imbalances, allergies, and other medical conditions. The prolongevity studies support the consideration of lifelong learning systems.

Evaluations currently are group comparisons. They foster competition; they minimize cooperation. Grades, grade-point averages, and class rank may not measure learning for the Twenty-First Century. For whom are the evaluations? The implications of the futures literature appear to be clear; present methods of evaluation in the cognitive domain should be revised, and then expanded to include cognitive growth in other than the three R's. The areas of psychomotor and affective evaluation, almost non-existent now, should become priorities. Who, indeed, is an educated person?

Achieving a re-evaluation of education in a changing society will necessitate different leadership: it will call for individuals who lead by going beyond voting and consensus toward the concept of judgment. The implications for educators of the pending societal crises and opportunities strongly suggest that educators should now move away from reactive positions toward pro-active styles. If society is in a major transition toward a new age, educational leaders should assist the students, parents, people -- the communities which they serve --

to comprehend, cope with, and shape the coming transformation. New learning systems for a new age may be an essential element, not only of survival, but of creating preferable futures. Educators, according to most of the well known futurists, have a major role in the preservation of the biosphere and humankind.

PART IV: MEMBERSHIP IMPLICATIONS

Educators have generally agreed that a major purpose of education is to prepare students for the future. Yet, when reviewing curriculum in most school districts, there is a heavy orientation towards the past with some attention to current events. Little emphasis is given to a consideration of the future.

There is a need for ASCD members to address this imbalance by integrating a futures perspective in all aspects of the educational process. Students need to look ahead; their present actions, to a great extent, will be based upon their images of the future. Although individuals cannot preview exactly what the future holds, they can explore, plan, and create alternative futures. As a result, students can anticipate the future with a greater sense of confidence and optimism.

ASCD members who would be New Age educators can facilitate a futures orientation for New Age students by addressing themselves to the following elements of and skills for an emerging paradigm.

- There is not one predetermined future; rather there are many possible alternative futures.
- From among the alternatives, the future that will actually occur will be determined by a combination of change and human choice.
- Human choice among alternatives is necessary; even refusing to choose is itself a choice.
- The future depends to a great extent upon choices that are made now.
- The future would be different from past and present worlds, perhaps drastically different in some respects.
- Methods which were successful in the past may not work in the future.
- Individuals are responsible for their own future.

-Small changes over time can become major changes.

-Future changes will alter personal lifestyles.

-Students need basic forecasting skills.

-Students need to anticipate and adapt to change.

-Students need to acquire a longer time perspective.

-Students need skills to conceptualize various levels of consequences of actions and events.

ASCD members can incorporate a futures perspective for education in a variety of ways. One approach is to offer separate courses devoted primarily to a study of futures. A second approach is to incorporate into broader courses separate units on futures. Another possibility is to develop a school-within-a-school or magnet school in which a primary emphasis is placed on a study of futures. A more complete concept than viewing futures as a separate area of study is to integrate the entire school program with a futures perspective.

At present, the most common approach to future studies is to offer a separate elective course. While in the short run this might be an expedient way to begin, it has many disadvantages. Not only is it limited to those students who elect such a course, but, diametrically opposed to the concept, it compartmentalizes a holistic perspective. Students are better served when educators integrate the entire curriculum with a futures perspective that involves all aspects of learning. A holistic approach ultimately will lead to the development of new learning systems.

ASCD members who wish to begin the process of including a futures perspective in their school districts are urged to take the following initial steps:

1. Obtain a comprehensive membership in the World Future Society. This membership is intended for individuals who are or wish to

become professionally involved in futures studies. The Society publishes The Futurist, a biomonthly journal of forecasts, trends and ideas about futures; The Bulletin; and The Education Tomorrow newsletter. Books, reports, films, and other specialized documents dealing with future-related topics are also available. Through the Society's Book Service, members can purchase books, audiotapes, games and other educational materials.

2. Read the following "starter" books:

Cornish, Edward, et. al. The Study of the Future. Washington, D.C.: World Future Society, 1977.

Kauffman, Draper L. Jr. Teaching the Future: A Guide to Future-Oriented Education. Palm Springs, California: ETC Publications, 1976.

Harman, Willis W. An Incomplete Guide to the Future. San Francisco: San Francisco Book Company, 1976.

These books may be obtained from the Book Service of the World Future Society.

3. Sponsor a futures studies consciousness-raising workshop for interested staff members.

4. Follow the workshop with appropriate inservice programs. (Appendix B).

5. Encourage local, state, and national professional organizations to sponsor conference sessions focusing on societal and educational futures.

6. Establish a network of persons who can provide mutual support and encouragement during the process of developing and implementing a futures perspective.

7. Request nearby universities to offer experiences which will help teachers gain a futures perspective.

8. Work collaboratively with teacher training institutions in order to develop appropriate models for New Age educators.

The above suggestions are merely first steps to the acquisition of a futures perspective for education.

PART V: ORGANIZATIONAL SUPPORT

ASCD could help create the future of education by joining those educators whose focus has primarily been schools with those whose focus is beyond the schools. It could help create a voluntary network of businesses, industries, schools and social agencies which could work together in a joint venture to achieve commonly held goals. ASCD could be a hosting organization that would allow for sharing of planning, decision making, and human and material resources among these separate groups. This collaboration could benefit all individuals who find themselves learners in a learning society.

Such broad linkages may seem difficult to achieve at present. It is apparent that this is a time of no-growth, budget cuts, job displacement, and institutional discontinuity. These issues create insecurity in public schools and institutions of higher education. Pressing problems often prevent persons from perceiving situations from a broader perspective. Research psychologists have verified that threatening situations which increase stress bring about inflexible and non-adaptive behavior. Increased pressures manifest themselves in decreased efficiency on intellectual tasks, an intolerance of ambiguous situations, and an inability to "shift gears" appropriately in moving from one situation to another. Stressful situations create pessimism.

Beyond the todays and into the tomorrows, a very different picture is possible; a new series of alternatives can erase the discouragement that presently permeates the profession. New alternatives call for flexibility, adaptation, increased ambiguity, and creativity. There is a need to move from narrow perspectives to wider visions,

from present insecurities to future possibilities, from reacting to creating.

In support of moving in these new directions, recent reports cite evidence that formal learning has expanded beyond schools.

- -In 1975, 610 corporations spent two billion dollars on employee education.
- -These corporations employed 45,000 full time teachers.
- -Expenditures for training in industry in the United States are estimated at $100 billion annually.
- -There are 10,000 privately owned post-secondary vocational training institutions.
- -The work force of the emerging society is primarily a professional class based on knowledge rather than on property.
- -Changeover in society is signified not only by the places where people work, but also in the work they do. Less than 50% of American workers are engaged in earning a living through manual labor.
- -Emerging society is based on services. What counts is not muscle power or energy but information.
- -Emerging society is organized around knowledge for the purpose of social control, directing innovation, and change. This in turn gives rise to new social relationships and new structures which have to be managed.

The above statements speak of a world whose economy is based on services, and where knowledge and information are sources of power. The United States is a society in which learning and knowing are central issues for a majority of persons. It is a society where education is flourishing, but where schooling (defined as elementary, secondary, and college) is diminishing. Those in the school profession are but one important educational influence. Needed is a more comprehensive view of education that includes multiple organizations and varied constituencies who are deeply concerned about fostering personal growth in a learning society. In the past,

those who have constructed educational programs have asked the question: "What should schools teach children and youth?" In the future, educational planners will need to ask: "What learning opportunities should be provided for citizens?" Policies regarding appropriate educational programs need to be made with respect to a wide variety of institutions that educate. Public school people need to broaden their horizons and envision new systems for educating people, rather than conducting schools.

Educators who have focused their time, resources, research and energy on schools have much to share with other professions who are part of the learning society. This sharing of expertise needs to include private corporations, such as ITT, Sperry Univac, J.C. Penney, I.B.M. and Allstate. These groups are concerned about their own employees; they are also concerned about the educational market, whether micro-computers or consumer affairs.

Another group of persons in the information society who see themselves in an educational role are members of social agencies. These agencies are as diverse as private counseling centers vis a vis statewide social agencies who are hoping to work with the public by providing information which will act as a preventive measure to help people maintain their mental and/or physical well being.

ASCD as an organization must attempt to create linkages with industry, social agencies and other educational groups involved in the learning process. Besides these external linkages, ASCD must foster linkage with other professional organizations whose focus is the person, regardless of age. There is a need for the National Council of Teachers of English to cooperate with the National Association of Elementary School Principals who also need to cooperate with the World Future Society who in turn need to be connected with State Departments of Education who need

to relate to the Council for the Advancement of Experiential Learning. A sharing of expertise is essential both internally and externally.

ASCD could well serve as a facilitator of these new collaborative efforts. Therefore, the Task Force recommends the following initial steps:

-Initiate a series of dialogues for its membership and other sectors within the learning society. Some suggested topics might be:

  --Impact of the Electronics Industry on Learning/Schooling

  --Futurists Views of Societal Change and Their Impact Upon Education

  --An Institute on Future/Education.

-Disseminate dialogues among Industry, Social Agencies and Educators within Educational Leadership.

-Assume leadership in creating visible linkages among sample groups in order to foster a holistic perspective of learning:

  --Lead educators to link with Social Agencies and Industry

  --Model linkages among educational organizations

  --Foster state level linkages within the organization

  --Foster linkages among special interest groups within ASCD

  --Create an ad hoc group of ASCD members that fosters linkages among state level organizations and special interest groups within ASCD.

-Create a Futures emphasis within the ASCD Clearinghouse that will aid members in obtaining resources.

PART VI: SUMMARY

All parts of this report are interrelated. Portions of each section can be implemented immediately. Some recommendations can be activated now (short range); some recommendations can be implemented in three to five years (intermediate range); and more involved recommendations may take as long as five to twenty years (long range). It is imperative that the ASCD leadership discuss this report in terms of their specific areas of individual responsibility. The issues and concerns in Parts I, II and III are more general and global in nature; Parts IV, V and VI identify specific actions for the membership.

The Futuristics and Education Task Force urges ASCD to add a seventh goal to its proposed revised goals of October, 1977. This seventh goal should include a statement that will further the concepts of Futures Research and Foresighting in the realization of the ASCD long range plans. The goal should require validation of all long range planning in terms of available projections and data related to the decades ahead and with the foresight which will lead ASCD toward a clarification of and transition toward the needs of the Twenty-First Century. Futures Research and Foresighting can lead the organization toward selecting new priorities, goals, issues and alternative solutions which will enhance judgments made by present and future ASCD leadership.

To this purpose and in light of this comprehensive futures report, the Task Force recommends that a committee be created and funded to expedite ASCD efforts to continue to explore ongoing implications of Futuristics and Education, to implement this report, and to update on a continuing basis ASCD progress in this area, with modification proposals when necessary, as more and more of the future moves from projection to present reality.

Appendix A

Future Problems

Developed by Stanford Research Institute

1. Malnutrition-Induced Mental Deficiencies Leading to Social Instability
2. The Cultural Exclusion of the Aged
3. Global Firewood Shortage
4. Critical Advances in Biomedical Technology including access to life extension, genetic engineering, euthanasia
5. The Growing Conflict Between Central Control and Individual Freedom
6. The Conflict Between Low Growth and Rising Expectations
7. Police Alienation from the Populace
8. Loss of Cultural Diversity
9. Potential for New Urban Violence
10. The "Invisible" Famine
11. Persistent Malnutrition Despite Affluence
12. Teenage Alcoholism
13. Lack of Fundamental Life Skills in Adults
14. A Growing Subculture of the Information-Poor
15. Barriers to Large-Scale Technological Innovations
16. The Social Impact of Changing Role of Women
17. The Sociocultural Impact of Media
18. The Social Implications of Changing Family Forms
19. The Effects of Stress on Individuals and Society
20. The Potential Use and Misuse of "Consciousness Technologies," including alternative medicine, capacity-enhancing technologies, and psychic abilities
21. Decreasing Capital Productivity of New Technology
22. Regulatory Restraints and Economic Growth
23. Weapons Technology and the Right to Bear Arms

24. Cumulative Effects of Pollution

25. Limits to the Management of Large, Complex Systems

26. The Apparent Conflict Between World Peace and World Justice

27. Catastrophic Experiments

28. Vulnerability of Water Supplies

29. The Dangers of Computer Dependency

30. Decreasing Utility of Higher Education

31. Effects of Technology on the Individual Psyche

32. Loss of Political and Social Cohesion

33. Institutional Boundries as Impediments to Societal Problem-Solving

34. The Need for Better Socioeconomic Models

35. Advanced Microcomputers and Rights to Privacy

36. Chronic Unemployment

37. Social Response to Energy Disappointments

38. A Growing Need for "Appropriate Technology"

39. The Societal Changes Required to Adapt to New Energy Sources

40. Emerging Nations and the End of Oil

41. Social Effects of Redefining Legal Liability

Appendix B

Societal Futurist Speakers

Roy Amara, President
Institute for the Future
2740 Sand Hill Road
Menlo Park, CA 84025

Ronald Barnes, President
Transitions, Inc.
201 N. Central, Suite 2115
Phoenix, Arizona 85073

Elise Boulding, Professor
Institute of Behavioral Science
University of Colorado
Boulder, Colorado 80302

Lester Brown, President
Worldwatch Institute
1776 Massachusetts Avenue N.W.
Washington, D.C. 20036

James Dator, Professor
Department of Political Science
University of Hawaii
2424 Maile Way
Honolulu, Hawaii 95822

F. M. Esfandiary
P. O. Box 61
Village Station
New York, New York 10014

Willis Harman, Associate Director
Center for the Study of Social Policy
Stanford Research Institute
333 Ravenswood
Menlo Park, CA 94025

Richard Hey, Director
Family Counseling Services
University of Minnesota
St. Paul, Minnesota

Earl Joseph, Staff Scientist
Sperry Univac
P. O. Box 3525
St. Paul, Minnesota 55165

Michael Marien, Director
Institute for Policy Design
Lafayette, New York 13084

Russell Peterson, Director
Office of Technology Assessment
Congress of United State
Washington, D.C. 20515

John Platt, Professor
Depts. of Anthro. & Environmental Studies
University of California
Santa Barbara, CA 93017

Charles Rose
Congressman from North Carolina
House of Representatives
Washington, D.C. 20515

Carl Sagan
Columbia University
New York, New York

Robert Theobald, Lecturer
Box 2240
Wickenburg, Arizona 85388

Educator/Futurist Speakers

Robert Bundy, Consultant
147 Hathway Road
Syracuse, New York 13214

Arthur Combs, Consultant
1633 15th Avenue
Greeley, Colorado 80631

Christopher Dede, Associate Professor
University of Houston at Clear Lake City
2700 Bay Area Blvd.
Houston, Texas 77058

Henry Gideonse
Dean of Education
University of Cincinnati
Cincinnati, Ohio

Arthur J. Lewis
School of Education
University of Florida
Gainesville, Florida

Edward Pino, President
International Graduate School of Education
University Park Place
Parker, Colorado 80134

Louis Rubin, Professor
School of Education
University of Illinois
Urbana, Illinois

Harold Shane, Professor
School of Education
Indiana University
Bloomington, Indiana 47401

Workshop Leaders for Educational Futures

Joel Barker
F.F.I.T.
1301 Cherokee
West St. Paul, MN 55118

Michael Barkhurst, Asst. Superintendent
Nevada Union High School District
Ridge Road
Grass Valley, CA 95945

Diane Battung, Asst. Professor
Dept. of Teacher Education
University of Southern California
School of Education
Los Angeles, CA 90007

Penny Damlo
26 Burnamwood
Burnsville, MN 55337

John Eggers, Asst. Professor
University of Northern Iowa
120 East State Street
Mason City, Iowa 50401

Geoffrey Fletcher, Instructor
Milford Jr.-Sr. High School
5735 Pleasant Hill Road
Milford, Ohio 45150

Betty Barclay Franks, Instructor
Maple Heights High School
5500 Clement Drive
Maple Heights, Ohio 44137

Jerry Glenn, Director
Futures Options Room
2005 Belmont Road
Washington, D.C. 20018

Don Glines, Director
Educational Futures Projects
Box 2977
Sacramento, CA 95812

Arthur Harkins, Director
Center for Applied Social Sciences
University of Minnesota
Minneapolis, MN 55455

Draper Kauffman, Director
MAT Program
Webster College
St. Louis, Missouri 63119

Dennis Livingston, Asst. Professor
Dept. of Political Science
Marlboro College
Marlboro, VT 05344

O.W. Markley, Assoc. Professor
Futures Studies Program
University of Houston at CLC
Houston, Texas 77058

James Olivero, Project Director
Assoc. California School Administrators
4020 Birch Street
Newport Beach, CA 92660

Virginia Roth, Consultant
Westside Community Schools
909 South 76th
Omaha, Nebraska 68164

Richard Stock, Director
Secondary Education
Ann Arbor Public Schools
2555 South State Street
Ann Arbor, Michigan 48104

Dennis Van Avery, Director
Graduate School of Education
Westminster College
Salt Lake City, Utah 84105

Roy Weaver, Asst. Professor
Dept. of Curriculum/Instruction
School of Education
University of Southern California
School of Education
Los Angeles, CA 90007

Classroom Futures Resource Materials

Calypso Log, The Cousteau Society, 777 Third Avenue, New York 10017

Center for Global Perspectives, Publishers of Intercom, 218 E. 18th St., New York 10003

Dymaxion Sales, (Buckminster Fuller materials), 3500 Market, Philadelphia, PA 19104

Franks, Betty Barclay and Mary Kay Howard, "Looking Forward: A Mini Course in Future Studies," McGraw Hill Films Division, New York, 1975.

Global Development Studies Institute, 14 Main Street, Madison, NJ 07940

International Graduate School of Education, University Park Place, Parker, Colorado 80134 offers:

1. "Futuristics Resource Index"
2. "Selected Futuristic Activities for the Classroom Teacher, K-3"
3. "Selected Futuristic Activities for the Classroom Teacher, K-6"
4. "Selected Futuristic Activities for the Classroom Teacher, 7-9"
5. "Selected Futuristic Activities for the Classroom Teacher, 10-12"
6. "Directory of Elementary and Secondary Futuristic Schools and Problems"
7. "Future Focus Trends, Forecasts and Happenings Related to Education"

Penney, J.C., (Educational Materials), 1301 Avenue of the Americas, New York, 10019. Filmstrip Cassette Kits; Consumer Guides; Career Development; Resource Units

Van Avery, Dennis (editor), "The Process Curriculum: A Way To A Future", Westminster College, Salt Lake City, Utah 84105

Media:

Alliance for Environmental Education (filmstrip series), 3639 76th St., New York 10023

Dimensions of Change (Filmstrip Kit: 6 filmstrips and 6 cassettes), Doubleday Multimedia, #74302, 1974

Forecasting the Future: Can We Make Tomorrow Work? (Filmstrip Kit: 5 filmstrips and 5 cassettes), Harper & Row, 1976

The Future Unit (Filmstrip Kit: 4 filmstrips and 4 cassettes), Scholastic Literature Filmstrips, T O 3058, 1975

Human Values in an Age of Technology (Slide/Tape series, 2 parts), The Center for the Humanities, Inc., #222, 1973.

An Inquiry into the Future of Mankind: Designing Tomorrow Today (Slide/tape series, 2 parts), The Center for the Humanities, Inc., #258, 1973

Living with Technology: Can We Control Applied Science? (Filmstrip Kit: 5 filmstrips and 5 cassettes), Harper & Row Media, #24-25304, 1975

Martin, Marie, "Films on the Future: A Selective Listing", Book Service, World Future Society, P. O. Box 30369, Bethesda Branch, Washington, D.C. 20014

Newsweek Educational Division and Newsweek Multimedia, 444 Madison Avenue, New York 10022

Redesigning Man: Science and Human Values (Filmstrip Kit: 6 filmstrips and 6 cassettes), Harper and Row Media, 1974

Toward the Year 2000: Can We Survive the Future? (Slide/tape series, 2 parts), The Center for the Humanities, Inc., #237, 1973

Games and Simulations:

Adapt from Interact.

Build a City, created by Joel Barker, Science Museum of Minnesota, 30 East 10th, St. Paul, Minnesota

Cope from Interact

Future Planning Games from Greenhaven Press

Futuribles, created by George Koehler, 1973, Cokesbury, Service Department, P. O. Box 840, Nashville, Tenn. 37202

Global Futures Game from Earthrise Publications

Horn, Robert, The Guide to Simulations/Games for Education and Training, Distributed by Didactive Systems, Crawford, NJ 07016

Immortality Game, created by Joel Barker, Science Museum of Minnesota, 30 East 10th, St. Paul, Minnesota

I.Q. Game, created by Betty Franks, Similie II

Newtown from Harwell Associates

New City Telephone Company Game available from some telephone companies without charge

Books/Articles on Societal Futures

Boulding, Kenneth. The Meaning of the Twentieth Century: The Great Transition, Harper & Row, New York, 1964.

_____. Ecodynamics: A New Theory of Social Evolution, Sage Publications, Beverly Hills, California, 1978.

Brown, Lester. The Twenty-Ninth Day: Accomodating Human Needs and Numbers to the Earth's Resources. W.W. Norten, New York, 1978.

Cornish, Edward, et. al. The Study of the Future: An Introduction to the Art and Science of Understanding and Shaping Tomorrow's World, World Future Society, Washington, D.C., 1977.

Coldsmith, Edward, et. al., A Blueprint for Survival. Houghton, Mifflin, Boston, 1972.

Harman, Willis. An Incomplete Guide to the Future. The Portable Stanford, San Francisco Book Co., San Francisco, 1976.

Heilbroner, Robert. An Inquiry into the Human Prospect. W.W. Norton, New York, 1974.

Jantsch, Erich and Waddington, C. H. eds. Evolution and Consciousness: Human Systems in Transition. Addison Wesley, Reading, PA, 1976.

Kahn, Herman. The Next Two Hundred Years, Morrow, New York, 1976.

Platt, John. "What We Must Do" Science 166, Nov. 28, 1969. Reprinted in Tugwell, Franklin, ed. Search for Alternatives, Winthrop, 1973.

Schumacher, E.F. Small is Beautiful: Economics as if People Mattered. Harper and Row, New York, 1973.

Solzhenitsyn, Alexander, et. al. From Under the Rubble. Little Brown, Boston, 1975.

Toffler, Alvin, ed. The Futurists. Random House, New York, 1972.

Books/Articles on Educational Futures

Barnes, Ronald. Tomorrow's Educator: An Alternative to Today's School Person. Transitions, Inc., 201 North Central, Phoenix, Arizona, 1977.

_____. 1996: A Look Back at Educational Transitions; Change: Alternatives to Thoughtless Resistance; Stress: Alternative to Fearing It; Human Growth: An Alternative to Stagnation; Futures: Alternatives to Passivity and the Past.

Glines, Don. Educational Futures I: Imagining and Inventing; Educational Futures II: Options and Alternatives; Educational Futures III: Change and Reality; Educational Futures IV: Updating and Overleaping. A quadrilogyof books. Anvil Press, Box 37, Millville, Minnesota, 1978.

Goodland, John. Facing the Future, McGraw Hill, New York, 1976.

Hostrop, Richard, ed. Foundations of Futurology in Education, E.T.C. Publications, Palm Springs, California, 1973.

Kauffman, Draper. Teaching the Future: A Guide to Future-Oriented Education, E.T.C. Publications, Palm Springs, California, 1976.

Van Avery, Dennis, ed. Futuring: Its Implications for Education, Westminster College, Salt Lake City, Utah, 1978.

Societal/Educational Futures Periodicals

Alternative Futures: The Journal of Utopian Studies, Human Dimenson Center, R.P.I., Troy, New York 12181

Environmental Action, 1346 Connecticut Avenue N.W., Washington,D.C. 20036

Futurics, Pergamon Press, Fairview Park, Elmsford, New York 10523

Futurist, World Future Society, 4916 St. Elmo Avenue, Washington, D.C. 20014

Human Behavior, 12031 Wilshire Blvd., Los Angeles, California 90025.

Omni, P. O. Box 908, Farmingdale, New York 11737

Psychology Today, P. O. Box 2990, Boulder, Colorado 80323

Rain-Journal of Approximate Technology, 2270 N.W. Irving, Portland, Oregon 97210

World Issues, Fund for the Republic, 2056 Eucalyptus Hill Road, Santa Barbara, CA 93108

Societal/Educational Information Groups

Center for Futures Research, Graduate School of Business, U.S.C., Los Angeles, CA 90007

Congressional Clearinghouse on the Future, 3605 House Annex #2, Washington, D.C. 20515

Cousteau Society, 777 Third Avenue, New York 10017

Futuremics, 2850 Connecticut Avenue N.W., Washington, D.C. 20008

Institute for the Future, 2740 Sand Hill Road, Menlo Park, CA 94025

Stanford Research Institute, Center for the Study of Social Policy, 333 Ravenswood, Menlo Park, California 94025

World Future Society, 4916 St. Elmo Avenue, Washington, D.C. 20014

Worldwatch Institute, 1776 Massachusetts Avenue N.W., Washington, D.C. 20036

The Task Force formulated a list of persons, print and non-print resources that speak to the issues within this report. The list is not inclusive. These resources are listed arbitrarily by category, based upon the personal experiences of the Task Force members.